

Committee Secretary,  
Senate Rural and Regional Affairs and Transport References Committee,  
PO Box 6100,  
Parliament House,  
Canberra ACT 2600 Australia

February 20, 2013,

Mr Stephen Palethorpe,

Dear Sir,

As per your request I make the following submission for consideration for the proposed bill before the Senate, **Inquiry into the Australian Sports Anti-Doping Authority Amendment Bill 2013**. This submission is done from the medical perspective. I felt compelled to make this submission as it is important that this inquiry bases its recommendations on medical and scientific fact. A lot of misinformation is currently circulating in the public arena. This needs to be corrected and any legislation based on medical fact, noting the importance that sport, and particularly competitive sport has on the community at large. Empirical evidence has demonstrated that sports participants and particularly professional sports participants will embrace any supplementation that will boost their performance and enhance their recovery. It is important that appropriate parameters are in place so this can be done legally and ethically. Clear guidelines will ensure that the probity of sport is protected and that participants use supplements that are safe and legal and that no competitor receives an unfair advantage over another. This necessitates strict testing guidelines and protocols to ensure athletes who violate the rules are identified and sanctioned. The timing, type and frequency of testing requires careful consideration.

First, I would like to make an observation that is germane to this issue and in particular, to the objectivity and scientific basis of decision making about what is, or is not, a performance enhancing substance. This observation may go beyond the scope of this inquiry but is one I feel compelled to make.

To date, many substances that are on the WADA banned list have not been properly investigated or have properties ascribed to them that are not true.

Any substance banned as performance enhancing should have proven and measurable reproducible effects that would clearly identify the substance as performance enhancing. My research and experience suggests that WADA has failed on this account with many of its banned substances. If Australia is to lead the world in this regard, we need to establish through ASADA, a rational scientific evaluation of substances which would lead to a list of scientifically proven banned performance enhancers. I suspect this list may differ significantly from WADA's. Nevertheless, until this can be done, I would recommend labelling identifying any banned WADA substance in any product sold.

In respect to the Bill before the Senate, notwithstanding the above, I submit the following medical fact for consideration;

Testing for **ALL** of WADA's banned drugs is nigh on impossible and the only ones that have a clear cut effect on performance devolve into a handful of drugs. These are anabolics and growth hormone (GH) or its promoters.

Anabolic steroids have half lives of a few days to a few months depending on the drug. Growth hormone has a half life of 60 minutes and the GH promoters can vary from minutes to a few days.

Skilled "dopers" know this and avoid being caught for the most part because they choose short acting agents. The best means to identify abusers of these agents is through direct and indirect blood testing.

Direct testing looks for the presence of the listed substances; non-testosterone, anabolic agents can be identified, while most of the others including GH peptides likely cannot with certainty at this time. Their effects, however, can be monitored as can testosterone.

To do this, blood samples need to be drawn on a regular basis and trending of the results may be helpful in establishing if an athlete is likely to be using these substances, which would then lead to a protocol for investigation.

A **Chemical/Drug Passport** is a way of keeping a record of all tests and viewing trends.

Blood and urine samples should of necessity be obtained when the players are fittest and again when they are potentially at their worst. This will allow detection by looking for abnormalities or changes within results that are outside the normal range and cannot be explained.

For the AFL, one regimen could be: baseline blood work after the season is over and when the players have recovered. Perhaps, two months after the last game for the season.

Then again, in February prior to the regular season, but as training and "exhibition" games begin, then six weeks into the regular season and again prior to the end of the regular season but before the play-offs. This measures the non-stressed and stressed parameters. A trend occurs throughout the season with many players showing decreasing levels of hormones, others showing higher but by establishing a player's "norms" it is easier to spot abnormalities that are naturally induced by stress or those that arise by substance abuse. Testing directly for anabolic steroids could be done at the same time as this is a direct measure of those particular drugs. On athletes with high testosterone levels, but still considered normal, no further testing for these drugs would normally be needed that season.

GH is measured by IGF-1 evaluations and these can be trended as well. Many athletes will output more IGF-1 until they become over stressed and then, like testosterone, the levels will fall. Abusers will show increasing amounts of IGF-1 but it is so difficult to measure GH or the peptides that it is only until a player's IGF-1 levels reach or exceed a teenager's levels could one be *suspicious* that abuse might be taking place. New tests can monitor increases in Type III collagen and a different isoform of GH that is released from the brain in someone using GH, but these tests need to be interpreted with great caution as natural variations may be due to the player's fitness program or by the use of amino acids and Vitamin C, as examples. Antibodies to the Peptides might prove useful: the commercialization of such testing is pending.

Serum estrogen levels should be measured as a routine as these trend upwards with rising testosterone levels in some individuals. High testosterone levels and low estrogen levels would be suggestive of the use of estrogen blockers. These should be routinely tested for in players with a high testosterone level and a low estrogen level.

Despite these limitations, a Passport containing the relevant test results should be provided to the Team's Head Coach, the Team Doctor and ASADA. The sequestering of results in the hands of a few makes cheating much easier to conceal.

A panel that is independent of any sporting organization needs to provide oversight of these tests and the results. This would avoid the recent fiasco where no one seems to know who gave what to whom or when, and career ending decisions have been made that may yet have no basis in fact and this is a disaster for the clubs, the athletes and the public.

For players that have "stressed out" and need hormonal support and for injured players who would benefit from the healing properties of these substances requires an entirely different review, but in my opinion, this is needed as we are seeing too many injured players struggling to meet the demands of their team and who are unable to meet those demands placed on them. This is medically wrong and ethically wrong. We need to take a proactive approach to this and not allow WADA'S deficient guidelines dictate what is right or wrong for our athletes. Australia could lead the sporting world on regulations that are medically sound and humane.

Further, it would be prudent to see if any of the proponents of severe restrictions and penalties are beneficiaries of the laboratories or organizations that do drug testing. A conflict of interest here should be viewed with alarm as many of the drugs that are banned have no proven effect on performance whatsoever. Thus, many agents that are tested for are of no importance, yet the testing bodies make a substantial income from including as many of these agents as possible to be put on the banned list.

I realize that I have raised issues that don't appear to be related but taken as a whole they are relevant to any organization that is interested in a player's well-being but is also looking for clear cut abuse.

If I can be of assistance to you, it would be a privilege. I believe our players need to be treated medically when appropriate and that routine testing with "reasonable" protocols is essential and that an independent oversight is mandatory.

Thank you for giving me this opportunity to have input into a very complex issue and which has an Australian value that other less sports indulgent countries might lack and which cannot be measured simply, yet still requires a great deal of courage and thoughtfulness to achieve a fair result for all parties.

Sincerely,

Robin J Willcourt MB BS FRANZCOG, FACOG